

REMARKS

Claim 1 has been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicants regard as their invention. Claims 16-22 are newly added.

Claim Objection

Claims 1-3, 7 and 9 are objected to because of informalities. Taking the Examiner's comments into consideration claim 1 has been amended. Therefore, withdrawal of the objection to claims 1-3, 7 and 9 is respectfully requested.

Claim Rejections under 35 USC §103

Claims 1-3, 7 and 9 stand rejected under 35 U.S.C. 103(a) as unpatentable over Inoue, in view of AAPA, Sheppard and Dawson.

Inoue discloses a GaN HEMT device comprising a SiC substrate, a GaN channel layer, an n-type AlGaIn electron supply layer, source drain electrodes on the electron supply layer, a GaN cap layer, and a gate electrode on the GaN cap layer. The area around the gate electrode was considered. The Examiner admits that Inoue fails to disclose that the bottom surfaces of the recesses are roughened compared to the top surface of the cap layer and that the cap layer is doped to n-type.

The Examiner refers to Fig. 8C of the instant application as AAPA. Fig. 8C is not AAPA. Fig. 8C is labeled as RELATED ART. FIG. 8C represents a foregoing proposal made by one of the inventors, Kikkawa, which was disclosed in a Japanese patent application 2001-164908, which was

filed on may 31, 2001, and published on December 13, 2002. Kikkawa application was published on December 13, 2002, after the invention. A declaration clarifying the time table of invention can be submitted should the Examiner consider it appropriate.

The Examiner states "it is always desirable to form silicided contact to the source/drain region, as evidenced in Sheppard". It is uncertain as to what the Examiner means by this. Applicant's claims and Sheppard do not recite any silicided electrode. "Silicide" is a compound of silicon and metal. Silicided electrode is very common in silicon devices, since silicon device has silicon surface. Sheppard discloses a GaN HEMT device on a SiC substrate, similar to the instant invention. The mentioned description describes a way of forming the source/drain electrodes, but there is no evidence of forming a silicided electrode.

The Examiner states "such silicided contact can be better formed by roughening the source/drain contact surfaces, as evidenced in Dawson". Dawson discloses a silicon MOS device having silicide source/drain electrodes formed on roughened source/drain areas. Dawson discloses a silicon device with silicide electrode, which is not recited in the instant invention nor in Sheppard. It is not understood how the Examiner combines Dawson in the GaN HEMT device of Sheppard.

Therefore, withdrawal of the rejection of Claims 1-3, 7 and 9 under 35 U.S.C. 103(a) as unpatentable over Inoue, in view of AAPA, Sheppard and Dawson.

Conclusion

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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